ONR BAA Announcement #04-020

BROAD AGENCY ANNOUNCEMENT (BAA)

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2). A formal Request for Proposals (RFP), solicitation, and/or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. ONR reserves the right to select for award all some or none of the proposals in response to this announcement. ONR reserves the right to fund all, some or none of the proposals received under this BAA and provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

I. GENERAL INFORMATION

1. Agency Name

Office of Naval Research
Contract and Grant Awards Management Division
Ballston Centre, Tower One
800 North Quincy Street
Arlington, VA 22217-5660

2. Research Opportunity Title

Command and Control and Combat Systems Applied Research

3. Program Name

Command and Control and Combat Systems (C2 and CS)

4. Research Opportunity Number

BAA 04-020

5. Response Date

Full Proposals: 1600 (4:00 PM) on Wednesday, 30 June 2004

6. Research Opportunity Description

Synopsis: The goal of the C2 and CS Program is to support the FORCEnet vision by developing measurable advances in technology that can directly enable and support ongoing Naval Enterprise capability enhancements. This will be accomplished by supporting science and technology enablers for decision making and mission execution to achieve battlespace superiority. In current and future operational environments, warfighters will require technologies evolved to support information needs regardless of location and consistent with the user's level of command or responsibility and operational situation. The Program's primary focus is in the development of hardware and software technologies that identify and integrate informational content from multi-media products including images; integrate the massive amounts of information that will be generated in future environments; and provide automatic correlation, fusion, and decision aids to support user-cognitive processes. This program addresses current warfighter functionality shortfalls in information integration resulting from limitations in technology. The C2 and CS Program will focus on advanced or novel approaches for automated image understanding and automated processes for recognizing target feature information; processing and integration of information from disparate sources; optimal decision aids incorporating rigorous decision theory and automated inference and reasoning; and assuring information integrity and availability according to mission objectives.

6.1 Operational Requirements

According to DoD definitions, Command and Control Systems are "the facilities, equipment, communications, procedures, and personnel essential to a commander for planning, directing, and controlling operations of assigned forces pursuant to the missions assigned." Network Centric Warfare (NCW) is defined as "military operations that exploit state-of-the-art information and networking technology to integrate widely dispersed human decision makers, situational and targeting sensors, and forces and weapons into a highly adaptive, comprehensive system to achieve unprecedented mission effectiveness."

FORCEnet is the Department of the Navy's operational construct and architectural framework for Naval Warfare in the Information Age which integrates warriors, sensors, networks, command and control, platforms and weapons into a networked, distributed combat force, scalable across the spectrum of conflict from seabed to space and sea to land. The underlying premise of FORCEnet is ready access to information and knowledge, allowing distributed forces

to make rapid, accurate decisions leading to desired outcomes. FORCEnet will provide the architecture and building blocks that interconnect sensors, networks, decision aids, weapons, warriors, and supporting systems into a highly adaptive human-centric, comprehensive system. The operational benefits sought are an increased speed and precision of command; distributed self-synchronization; flexibility and adaptability to an operational situation; and decision superiority. FORCEnet will achieve this in part by relying on Future Naval Capability (FNC) products and longer-term Discovery and Invention (D&I) projects.

6.2 Program Goals

The goal of the C2 and CS Program is to support the FORCEnet vision by developing measurable advances in technology that can directly enable and support ongoing Naval Enterprise capability enhancements. This will be accomplished by supporting science and technology enablers for decision making and mission execution to achieve battlespace superiority. In future operational environments, warfighters will require technologies evolved to support information needs regardless of location and consistent with the user's level of command or responsibility and operational situation. The Program's primary focus is in the development of hardware and software technologies that identify and integrate informational content from multi-media products including images; integrate the massive amounts of information that will be generated by in future environments; and provide automatic correlation, fusion, and decision aids to support user-cognitive processes. This program addresses current warfighter functionality shortfalls in information integration resulting from limitations in technology. These shortfalls include:

- Information systems do not understand context of user needs
- Users get little help dealing with information diverse needs
- Tendency toward information overload
- Inability to manage user subscription to information in near real time
- Inability to merge information across semantic differences

The C2 and CS Program will focus on advanced or novel approaches for automated image understanding and automated processes for recognizing target feature information; processing and integration of information from disparate sources; optimal decision aids incorporating rigorous decision theory and automated inference and reasoning; and assuring information integrity and availability according to mission objectives. This program is especially interested in applying innovative concepts, technologies, and techniques as described towards solving operational problems in the areas of asymmetric warfare, urban warfare, guerrilla warfare, and port/base security.

6.3 Program Thrusts

The C2 and CS Program have defined information integration as its primary focus. This focus examines the critical S&T needs of automatic association and merger of information for unified presentation; automated recognition and cueing for significant patterns of information, computer-aided reasoning for task-oriented information dissemination; timely, accurate information and

sensor fusion from heterogeneous sources; as well as supporting technologies to provide information assurance. Information Integration is supported by four thrusts:

- Automated image understanding
- Automated integration of disparate sources of information
- Situational awareness understanding
- Information integrity

6.4 Detailed Thrust Descriptions

6.4.1 Automated Image Understanding

Imagery is an important form of information for conveying battle-space situation. Current process for analysis of imagery in preparation of military operations is largely manual and time consuming. Time critical operations and autonomous operations using autonomous platforms equipped with image sensors demand automated approaches for image processing, analysis, and understanding. Novel techniques with rigorous mathematical foundation are sought for automatic feature and object recognition; automatic image registration for single modality images, multi-modal images, image and maps, etc.; navigation using imagery in the absence of or to complement GPS; and feature/object based compression to maximize bandwidth utilization and automatic target recognition (ATR).

ATR provides the battlefield commander with enhanced situational awareness by fully exploiting the capability of reconnaissance/surveillance platforms. Currently, on the order of 40% of imagery collected is not screened due to the number of analysts available. This situation will worsen by an order of magnitude as sensor systems are upgraded and new systems come on line. One of the goals of this thrust is to develop advanced ATR algorithms using commercially available processing hardware consistent with current and evolving imagery exploitation standards. This effort will develop the capability to automatically recognize targets. One interest area is to develop system implementation guidelines and ATR algorithms that can operate optimally under dynamic constraints. These guidelines will allow adaptation to evolving systems architectures, time constraints, processors' availability, and communications bandwidth.

6.4.2 Automated Integration of Disparate Sources of Information

NCW will exploit information technology (IT) to integrate widely dispersed human decision makers, sensors, forces and weapons to achieve mission effectiveness and increased speed of command. The goal is to provide timely, actionable information; intelligent management and exploitation of sensors focused on stated information needs; and appropriate degrees of automation for timely, focused threat alerting and target cueing. Warfighters access diverse sources of data and tools to support distributed operational users with timely updates and alerts relevant to their tactical situation.

The goal is to leverage emerging technologies to manage and exploit sensors to develop approaches for integrating data and reasoning about information from diverse sources in ways that supports decision makers with timely, actionable information at operational and tactical levels of command. Among the issues that must be addressed are:

- Automated, multi-source exploitation, and fusion of data to minimize the uncertainty of information critical to mission success in specific situations.
- Automated multi-source sensor management coupled to exploitation needs and maximize the expected value of information. Sensor management must be coordinated across sensor types to be responsive to observation constraints relevant to areas and issues of interest.
- Semi-automated, multi-source data mining techniques to uncover trends in activity, links among objects, and hidden models of behavior/activity to identify relationships and support intent analyses and COA alternatives.
- Preservation of data integrity (meaning formal correctness) in the face of various information handling and processing factors that can easily corrupt the fusion operations, rendering the results both incorrect and, worse yet, possibly misleading. This can be accomplished through algorithms, consistent use of models (platforms, sensors, phenomenology, etc.), maintenance of pedigrees, and derivation/application of performance metrics.

Tools needed will have a rigorous foundation in one of the decision sciences (e.g., operations research, artificial intelligence, statistics, constraint programming). Among the characteristics sought are:

- Tools capable of optimally allocating sensors, integrating the information they provide, and transforming this information into knowledge for the decision maker.
- Data mining tools that support searching vast amounts of data for either temporal or spacial patterns for activity of interest in a given threat scenario. This includes developing intelligent agents for data mining.
- Data schemas that support data fusion and data mining by providing a structured content in relationships.
- Tools that allow the warfighter to access additional, original information on an as-needed basis to re-evaluate information based on their current situation, preserve integrity through algorithms, consistent use of models (platforms, sensors, phenomenology, etc.), maintenance of pedigrees, and derivation/application of performance metrics, providing the ability to link one form to information to derived products.

6.4.3 Level 2/3 Information Fusion

While massive amounts of data will be generated by penetrating persistent sensors, warfighters require technologies that integrate information from diverse sources while supporting the user's information needs regardless of location and consistent with the user's level of command or responsibility and operational situation. IT-based decision tools that integrate and transform this information into actionable knowledge for the decision maker are required.

Multi-sensor data fusion combines information from multiple sources and sensors including human and contextual information to achieve inferences not feasible from a single sensor or source. Data fusion ensures: (1) robustness and reliability because the system is operational even

if one or several sources of information are missing or malfunctioning; (2) extended coverage in space and time; (3) increased dimensionality of the data space increasing the quality of the deduced information while reducing the vulnerability of the system; and (4) reduced ambiguity by providing more complete information providing better discrimination between available hypotheses. By combining data from sensors of many types, this thrust will provide the ability to track changing conditions and anticipate impacts more consistently than with a single sensor.

The goal of this thrust is to identify tools and technologies that support Level 2 and Level 3 data fusion. In particular, the goal is to provide the building blocks to create knowledge warfighters can use by low volume/high level information. Innovative concepts, techniques, and methodologies for automated analysis and planning capabilities are sought. Warfighters need: 1) automated multi-source data mining techniques to uncover trends in activity, links among objects, and hidden models of behavior/activity to identify relationships and support intent analyses and COA alternatives; and 2) tools that are capable of wading through the myriad of options available to the decision maker, selecting the "best" option, and presenting it to the decision maker in an understandable manner.

Level 2 - Situation Assessment: Situation assessment requires recognition of objects/entities in the regions of interest, as well as recognizing activities of these objects, and inferring their relationships. Issues that must be addressed include: automated target/object recognition; automated activity recognition from multiple sensors and reports collected and stored for historical analyses; inferring relationships of objects in the scene based on their identities or coordinated behaviors and historical analyses; the capability for the automated system to estimate certainties about object identities and activities; the capability to request human assistance or additional information from sensors or databases to resolve ambiguities.

Level 3 - Threat Assessment: Threat assessment requires inferring intent of objects/entities, or groups of objects, in the regions of interest. Issues that need to be addressed include: methods for constructing and learning a wide variety of models of threat behavior; methods for reasoning with uncertain and incomplete information for assessing threats from object activities; methods for efficient data-mining of databases; automated planning for courses of action (COA) to counter suspected threats; requesting human assistance for cognitively challenging situations; presentation of information and COA in readily understandable forms to people at a variety of levels of command and responsibility.

6.4.4 Information Integrity

The proliferation of communication media has led to an unprecedented demand for effective information integration and shared technologies for Command and Control and Combat Systems that have in turn led to new threats to data security. Assuring information integrity and confidentiality in mission critical networks is fundamental for Network Centric Warfare. There are two issues involved:

- Insider threat. A serious challenge to the trustworthiness and integrity of information systems. Research is needed for new technologies and tools to rapidly detect and counter unintentional and malicious acts of authorized system users affecting

information integrity and confidentiality. This includes unauthorized access to applications and data, misuse of allowed access, data theft, data corruption and other anomalous behavior.

- Information inference. Information belonging to one organization can be inferred by others from shared data if it is not properly protected. The goal is to move beyond simple techniques such as partitioning data into sensitive and non-sensitive storage, encrypting transmission channel, or using ``dirty word'' checks. Technologies of interest include multiple-party computation where private data are not disclosed during sharing and of statistical data sanitization where statistical methods are used to mitigate the chances of secret information being inferred from released data. In particular, there is a need for software tools that securely handle information integration while preventing inference attacks.

7. Point(s) of Contact

Questions of a technical nature shall be directed to the cognizant Science and Technical Point of Contact, as specified below:

Mr. Gary Toth
Command and Control Program Officer
Mathematical, Computer, and Informational Sciences Division
Code ONR 311
Office of Naval Research
Ballston Centre Tower One, Room 607-14
800 North Quincy Street
Arlington, VA 22217-5600
Telephone Number: (703) 696-4961
Facsimile Number: (703) 696-2611
Email Address: Tothg@onr.navy.mil

Technical questions shall be submitted in writing by electronic mail. Questions and responses will be posted on the ONR web site; no e-mail response will be provided. Questions presented by telephone call, fax message, or other means will not be responded to. There will be no meetings between potential offerors and the Science and Technical Point of Contact other than the Industry Day Briefing as indicated in paragraph 11. below.

Questions of a business nature shall be directed to the cognizant Contracting Officer, as specified below:

Mrs. Vera M. Carroll
Contracting Officer
Contract and Grant Awards Management
ONR 0251
Office of Naval Research
Ballston Centre Tower One, Room 720
800 North Quincy Street

Arlington, VA 22217-5660
Telephone Number: (703) 696-2610
Facsimile Number: (703) 696-0066
Email Address: carrolv@onr.navy.mil

8. Instrument Type(s)

It is anticipated that most awards resulting from this announcement will be contracts, particularly cost plus fixed fee (CPFF) and possibly some assistance agreements. Contract awards will fall under the purview of the Federal Acquisition Regulation (FAR) and the Defense Federal Acquisition Regulation Supplement (DFARS). ONR will consider awarding grants, cooperative agreements, or other transactions as appropriate. The decision as to what instrument type to propose is the responsibility of the offeror. The Government reserves the right to negotiate instrument type as part of the awards process.

9. Catalog of Federal Domestic Assistance (CFDA) Numbers

CFDA Number: 12.300

10. Catalog of Federal Domestic Assistance (CFDA) Titles

CFDA Title: Basic and Applied Scientific Research

11. Additional Information

The C2 and CS Program Office will conduct an unclassified Industry Day Briefing for potential offerros on Thursday, 20 May 2004. This briefing will be conducted at the Office of Naval Research, 800 North Quincy Street, Arlington, VA 22217 in the Management Information Center (MIC). Details of the briefing can be found in Section IV., paragraph 1. (A) entitled Industry Day Briefing.

II. AWARD INFORMATION

The Office of Naval Research plans to award multiple technology development contracts that represent the best value to the Government in accordance with the evaluation criteria set forth in this announcement. The Office of Naval Research is seeking participants for this program that are capable of supporting the goals described in this announcement. Offerors have the opportunity to be creative in the selection of the technical and management processes and approaches to addressing the thrust areas.

The Office of Naval Research plans to fund development contracts with Applied Research funds (Budget Category 6.2). It is anticipated that the average award will typically be in the range of $150,000.00-$600,000.00 per year excluding options, although lower and higher proposals will be considered. ONR expects to award a total of 6-10 contracts and possibly some assistance agreements.

The average amount of each award in the past was $400,000.00 per year. Proposed work should be structured for a one to three year period that shall include a base performance period of twelve months with one or two one year options. The estimated planned date for awards is on or about 29 October 2004 through 31 December 2004 and subject to the availability of FY 2005 funds.

ONR has funded related information technology development under numerous programs. Proposals that build on current or previous DoD work are encouraged. Offerors enhancing work performed under other ONR or DoD projects must clearly identify the point of departure, what existing work will be brought forward, and what new work will be performed under this BAA.

III. ELIGIBILITY INFORMATION

All responsible sources may submit a proposal, which shall be considered by the Government. Historically Black Colleges and Universities (HBCU) and Minority Institutions (MI) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this BAA will be set aside for HBCU and MI participation due to the impracticality of reserving discrete or severable areas of network centric warfare technology for exclusive competition among these entities.

Independent organizations and teams are encouraged to submit proposals in any or all areas. However, offerors must be willing to cooperate and exchange software, data and other information in an integrated program with other contractors, as well as with system integrators, selected by ONR.

Foreign entities may submit proposals under this BAA for unclassified/publicly releasable work if the proposed technology can be developed and demonstrated within that classification level. Proposals by foreign entities for confidential or classified work are subject to country to country agreements for the given technology.

A separate announcement will be released under which Government Entities and Federal Funded Research and Development Centers (FFRDCs) will be able to submit proposals for a share of the anticipated program funds.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process

(A) Industry Day Briefing: The C2 and CS Program Office will conduct an unclassified Industry Day Briefing for potential offerros on Thursday, 20 May 2004. This briefing will be conducted at the Office of Naval Research, 800 North Quincy Street, Arlington, VA 22217 in the Management Information Center (MIC), Room 915 from 1300-1600. The purpose of the briefing is to provide potential offerors with a better understanding of the aforementioned Program. For security reasons, anyone who has not pre-registered will not be allowed to attend. Interested offerors may register for the Industry Day Briefing at the C2 and CS Program website www.onr.navy.mil/02/baa/04_020. The following information is needed to register for the briefing: name of the attendee(s), title, organization, department or company division, telephone

number, facsimile number, and electronic mail address. Because unforeseen circumstances may case changes to the Industry Day Briefing schedule or venue, it is the offeror's responsibility to check the ONR website (www.onr.navy.mil) and the C2 and CS Program website www.onr.navy.mil/02/baa/04_20 for updates and information. All expenses for attendance must be borne by the potential officer. Those not able to attend the briefing should consult the BAA on the ONR website to review the briefing slides, answers to the questions raised during the briefing, as well as directions to the building. Registration for the briefing must be complete by 1200 or 12:00 PM (local time) on Monday, 17 May 2004. If requested attendance exceeds capacity, it may be necessary to limit attendance of personnel from each organization, and organizations will be so notified. ONR will reply via e-mail by 1700 or 5:00 PM (local time) on Monday, 17 May 2004 with the registration information. The C2 and CS Program website identified above is dedicated to this BAA and will be the primary means of publicizing all relevant information that is specific to this BAA. All interested parties are encouraged to visit this website regularly.

(B) Full Proposals: The due date for receipt of full proposals is 1600 or 4:00 PM (local time) on Wednesday, 30 June 2004. It is anticipated that final selections will be made on or about sixty (45) days after proposal submission. As soon as the final proposal evaluation process is completed, each offeror will be notified via e-mail of its selection or nonselection for an award. Proposals exceeding the page limit will not be evaluated.

(C) Oral Presentations: Offerors whose proposed technologies appear to be of particular interest to the Navy will be invited to make an oral presentation to a panel of government reviewers prior to the final selections. The oral presentation is to further assess the proposals submitted in response to this announcement. Selection of proposals for oral presentations will be announced by e-mail by mid July and not less than five (5) working days prior to the commencement of the oral presentation event. Oral presentations are tentatively planned for mid-late July. A detailed format for the presentation will be provided in the e-mail invitation. Each presentation will be no longer than twenty (20) minutes in duration. An additional ten (10) minutes will be allowed for questions (if any) from the panel of government reviewers. The final selection of proposals will be made after oral presentations. However, an award recommendation does not constitute a contractual agreement between the government and the offeror.

2. Content and Format of Full Proposals

The proposals submitted in response to this BAA are expected to be unclassified; however, confidential/classified proposals are permitted. The proposal submissions will be protected from unauthorized disclosure in accordance with FAR 15.207, applicable law, and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information. The proposal shall include a severable, self-standing Statement of Work, which contains only unclassified information and does not include any propriety restrictions. Contracts awarded under this announcement will be unclassified.

(A) Full Proposal Format – Volume 1 (Technical) and Volume 2 (Cost)

- Paper Size – 8.5 x 11 inch paper
- Margins – 1" inch
- Spacing – single or double-spaced
- Font – Times New Roman, 12 point
- Number of Pages – Volume 1 (technical proposal) is limited to no more than thirty (30) pages. Volume 2 (cost proposal) has no page limit. Limitations within sections of the technical proposal are indicated in the individual descriptions shown below. The title page, table of contents, executive summary, and resumes are excluded from the page limitations. Full proposals exceeding the page limit may not be evaluated.
- Copies – one (1) original, three (3) copies and one (1) electronic copy on CD-ROM, (in Microsoft® Word or Excel 97 compatible or .PDF format).

Full Proposal Content for Volume 1 (Technical) and Volume 2 (Cost)

Volume 1: Technical Proposal

Volume 1 of the full proposal shall include the following sections, each starting on a new page. Sections not included in the page limitations are annotated below. Please pay attention to the page limitations for each section as specified below.

1) Title Page: (Not included in the page limitations.) This should include the words "Technical Proposal" and the following:
   (a) BAA number;
   (b) Title of proposal;
   (c) Identity of prime offeror and a complete list of subcontractors, if applicable;
   (d) Technical contact (name, address, phone/fax, electronic mail address);
   (e) Administrative/business contact (name, address, phone/fax, electronic mail address); and
   (f) Duration of effort (differentiate basic effort and any options).
2) Table of Contents: (Not included in the page limitations.)
3) Executive Summary: (Two (2) pages and not included in the page limitations.) Summarize the technology you are proposing and the expected improvements to the Navy. The thrust addressed must be specifically noted.
4) Concept of Operation for the Navy: (Two (2) pages.) A summary of the way in which the proposal's product(s) will support the Navy in an operational context. Include quantitative specifications for how the products will improve operational performance.
5) Statement of Work: (Five (5) pages.) A Statement of Work (SOW) clearly detailing the scope and objectives of the effort and the technical approach. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable self-standing SOW without any proprietary restrictions, which can be attached to the contract or agreement award. Include a detailed listing of the technical tasks/subtasks organized by year.

6) Project Schedule and Milestones: (One (1) page.) A summary of the schedule of events and milestones.
7) Assertion of Data Rights: (One (1) page.) Include here a summary of any proprietary rights to pre-existing results, prototypes, or systems supporting and/or necessary for the use of the research, results, and/or prototype. Any rights made in other parts of the proposal that would impact the rights in this section must be cross-referenced. If there are proprietary rights, the offeror must explain how these affect its ability to deliver subsystems and toolkits for integration. Additionally, offerors must explain how the program goals are achievable in light of these proprietary and/or restrictive limitations. If there are no claims of proprietary rights in pre-existing data, this section shall consist of a statement to that effect.
8) Technical Approach and Deliverables: (Not to exceed nine (9) pages.) A detailed description of the approach planned, results targeted, and products to be delivered.
9) Operational Utility: (Not to exceed two (2) pages.) A detailed plan for assessing the operational utility of the key products of this effort during a Fleet or Marine operational exercise, including proposed metrics.
10) Qualifications: (Three (3) pages.) A discussion of previous accomplishments and work in this, or closely related areas, and the qualifications of the investigators. Key personnel resumes shall be attached to the proposal and will not count toward the page limitations.
11) Management Approach: (Five (5) pages.) A discussion of the overall approach to the management of this effort, including brief discussions of the total organization, use of personnel, project/function/subcontractor relationships, government research interfaces, and planning, scheduling and control practice. Identify which personnel and subcontractors (if any) will be involved. Include a description of the facilities that are required for the proposed effort with a description of any Government Furnished Equipment/Hardware/Software/Information required, by version and/or configuration.

Volume 2: Cost Proposal

The cost proposal shall consist of a cover page and two parts, Part 1 and Part 2. Part 1 will provide a detailed cost breakdown of all costs by cost category by calendar or fiscal year and Part 2 will provide a cost breakdown by task/sub-task using the same task numbers in the Statement of Work. Options must be separately priced. There is no page limitation on the cost proposal.

- Cover Page: The use of the SF 1411 is optional. This proposal should include the words "Cost Proposal" and the following:
    1) BAA number;
    2) Title of proposal;
    3) Identity of prime offeror and complete list of subcontractors, if applicable;
    4) Technical contact (name, address, phone/fax, electronic mail address)
    5) Administrative/business contact (name, address, phone/fax, electronic mail address);
    6) Duration of effort (differentiate basic effort and options); and

7) Summary statement of proposed costs

- Part 1: Detailed breakdown of all costs by cost category by calendar or fiscal year:

  1) Direct Labor - Individual labor category or person, with associated labor hours and unburdened direct labor rates.
  2) Indirect Costs - Fringe Benefits, Overhead, G&A, COM, etc. (Must show base amount and rate.)
  3) Proposed contractor-acquired equipment, such as, but not limited to, computer hardware for proposed research projects should be specifically itemized with costs or estimated costs, if it is being proposed as a direct cost. An explanation of any estimating factors, including their derivation and application, should be provided. Please include a brief description of the offeror's procurement method to be used.
  4) Proposed Government furnished equipment or facilities, if applicable.
  5) Travel - Number of trips, number of days per trip, departure and arrival destinations, number of people, etc.
  6) Subcontract - A cost proposal as detailed as the offeror's cost proposal will be required to be submitted by the subcontractor. The subcontractor's cost proposal can be provided in a sealed envelope with the offeror's cost proposal or will be requested from the subcontractor at a later date.
  7) Consultant - Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate.
  8) Materials should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Please include a brief description of the offeror's procurement method to be used.
  9) Other Directs Costs.
  10) Fee/Profit including fee percentage.

- Part 2: Cost breakdown by task/sub-task using the same task numbers identified in the Statement of Work. When options are contemplated, options must be separately identified and priced by task/sub-task corresponding to the same task numbers in the Statement of Work.

3. Significant Dates and Times

Significant dates and times associated with this BAA are shown in the table below.

Schedule of Events		
Event	**Date**	**Time (Local Time)**
Industry Day Briefing	Thursday, 20 May 2004	1300-1600 (1:00 PM-4:00 PM)
Full Proposals Due Date	Wednesday, 30 June 2004	1600 (4:00 PM)
Notification of Selection for Award		1600 (4:00 PM), 45

	Mid – Late August 2004	to 60 days after due date
Contract Awards	October through December 2004	-

4. Submission of Late Proposals

Any proposal, modification, or revision, that is received at the designated Government office after the exact time specified for receipt of proposals is "late" and will not be considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and

(a) If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(b) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government's control prior to the time set for receipt of proposals; or

(c) It was the only proposal received.

However, a late modification of an otherwise timely and successful proposal, that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

Acceptable evidence to establish the time or receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time specified in the announcement, and urgent Government requirements preclude amendment of the announcement closing date, the time specified for receipt of proposals will be deemed to be extend to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

The contracting officer must promptly notify any offeror if its proposal, modifications, or revision was received late and must inform the offeror whether its proposal will be considered.

5. Address for the Submission of Full Proposals

Offerors shall make submissions to the Office of Naval Research at the address specified below:

Office of Naval Research

Ballston Center Tower One
Attn: Mr. Gary Toth, ONR 311
Room 607-14
800 North Quincy Street
Arlington, VA 22217-5660
Telephone Number: (703) 696-4961

NOTE: PROPOSALS SENT BY FAX OR EMAIL WILL NOT BE CONSIDERED.

V. EVALUATION INFORMATION

1. Evaluation Criteria

The Office of Naval Research plans to award a total of 6-10 awards depending on their value to the Government in accordance with the evaluation criteria stated below. The following evaluation criteria apply to full proposal submissions. Proposals will be selected through a decision process with technical and scientific considerations being most important. Criteria A through D are listed in descending order of priority. Any subcriteria listed under a particular criterion are of equal importance to each other. Even though cost is of less importance than the technical factors combined, it will not be ignored. The degree of its importance will increase with the degree of equality of the proposals in relation to the other factors on which selection is to be based, or when the cost is so significantly high as to diminish the value of the technical superiority to the Government. The sub-criteria, i.e., the "bullet" items within each of the numbered paragraphs, are of equal importance.

A. Overall scientific and technical merits of the proposal
   1. The degree of innovation.
   2. The soundness of technical concept.
   3. The offeror's awareness of the state-of-the-art and understanding of the scope of the problem and the technical effort needed to address it.

B. Naval relevance, transition potential and anticipated contributions of the proposed technology to FORCEnet and network centric warfare operations

C. Offeror's capabilities, related experience, and past performance, including the qualifications, capabilities and experience of the proposed principal personnel
   1. The quality of technical personnel proposed
   2. The offeror's experience in relevant efforts with similar resources
   3. The ability to manage the proposed effort

D. The realism of the proposed cost
   1. Total cost relative to benefit
   2. Realism of cost levels for facilities and staffing

Socio-Economic Merits - For proposed awards to be issued as contracts, the socio-economic merits of each proposal will be evaluated based on the extent of the offeror's commitment in providing meaningful subcontracting opportunities (to the maximum extent practicable) for small businesses, HUBZone small businesses, small disadvantaged businesses, woman-owned small businesses, veteran-owned small businesses, service disabled veteran small businesses, historically black colleges and universities, and minority institutions.

Industry-Academia Partnering – ONR highly encourages partnering among industry and academia with a view toward speeding the incorporation of new science and technology into fielded systems. Proposals that utilize industry-academic partnering which enhances the development of novel S&T advances will be given favorable consideration.

Industry-Government Partnering – ONR highly encourages partnering among industry and Government with a view toward speeding the incorporation of new science and technology into fielded systems. Proposals that utilize industry-Government partnering which enhances the development of novel S&T advances will be given favorable consideration. Offerors proposing to partner with Government Laboratories or Federally Funded Research and Development Centers (FFRDCs) should provide the "partnering proposal" from the Government or FFRDC entity with its proposal. However these partnering proposals must be "segregatable" from the Industry or Academia main proposal since ONR will fund these partnering proposals directly. As such, Industry/Academia cost proposals should not include any direct costs or pass-through fees (indirect costs or fixed fee) associated with the partnering proposal from the Government Laboratory or FFRDC.

2. Evaluation Panel

Technical and cost proposals submitted under this BAA will be protected from unauthorized disclosure in accordance with FAR 3.104-5 and 15.207. Potential offerors should understand that government technical experts drawn from the Office of Naval Research and other naval and defense activities/agencies will participate in the evaluation of the full proposals and oral presentations. All government personnel participating in evaluation will be bound by appropriate non-disclosure agreements (NDA) to protect proprietary and source-selection information.

The Government may use selected support personnel to assist in providing both technical expertise and administrative support regarding any ensuing proposals from this announcement. Similarly, support contractors may be utilized as subject-matter experts in the evaluation of cost proposals. However, proposal selection and award decisions are solely the responsibility of Government personnel. Each support contractor's employee having access to technical and cost proposals submitted in response to this BAA will be required to sign a non-disclosure statement prior to receipt of any proposal submissions. These support contractors will be bound by appropriate non-disclosure agreements to protect proprietary and source-selection information.

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements

- The North American Industry Classification System (NAICS) code - The North American Industry Classification System (NAICS) code for this solicitation is 541710 with a small business size standard of 500 employees.
- CCR - Successful offerors not already registered in the Central Contractor Registry (CCR) will be required to register in CCR prior to award of any grant, contract, cooperative agreement, or other transaction agreement. Information on CCR registration is available at http://www.onr.navy.mil/02/ccr.htm
- Certifications - Proposals should be accompanied by a completed certification package which can be accessed on the ONR Home Page at Contracts and Grants. For grant proposals and proposals for cooperative agreements or other transaction agreements (other than for prototypes), the certification package is entitled, "Certifications for Grants and Agreements". For contract proposals, the certification package is entitled, "Representations and Certifications for Contracts".
- Subcontracting Plans - Successful contract proposals that exceed $500,000, submitted by all but small business concerns, will be required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9, prior to award. This requirement also applies to non-profits, including educational institutions.

2. Reporting

The following is a sample of deliverables that could be required under a research effort. The following deliverables, primarily in contractor format, are anticipated as necessary. However, specific deliverables should be proposed by each offeror and finalized with the contracting agent.

- Technical progress reports at regular time intervals as specified in the award document, including detailed technical data , algorithms and software as appropriate
- Financial progress reports at regular time intervals as specified in the award document
- Presentation material(s)
- Other documentation or reports, such as publications
- Final technical report

VII. OTHER INFORMATION

1. Government Property/Government Furnished Equipment (GFE) and Facilities

Each offeror must provide a very specific description of any equipment/hardware that it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award. Also, this description should identify the component, nomenclature, and configuration of the equipment/hardware proposed to be purchased for this effort. It is the Government's desire to have the contractor purchase the equipment/hardware for deliverable items under their contract. The purchase on a direct reimbursement basis of special test equipment or other

equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis.

Offerors are expected to provide all facilities (equipment and/or real property) necessary for the performance of the proposed effort. Any direct charge of facilities, not including deliverable items, must be specifically identified in the offeror's proposal and approved by the Government prior to purchase. In addition, any request to use Government owned facilities must be included in the offeror's proposal and approved in advance by the cognizant Government official. After contract award, requests to use Government integration, test, and experiment facilities will be considered on a case by case basis based on availability and justification of need.

2. Security Classification

All proposals are to be unclassified. In order to facilitate intra-program collaboration and technology transfer, the Government will attempt to enable technology developers to work at the unclassified level to the maximum extent possible.

If developers use unclassified data in their deliveries and demonstrations regarding a potential classified project, they should use methods and conventions consistent with those used in classified environments. Such conventions will permit the various subsystems and the final system to be more adaptable in accommodating classified data in the transition system.

3. Project Meetings and Reviews

Individual program reviews between the ONR sponsor and the performer may be held as necessary. Program status reviews may also be held to provide a forum for reviews of the latest results from experiments and any other incremental progress towards the major demonstrations. These meetings will be held at various sites throughout the country. For costing purposes, offerors should assume that 40% of these meetings will be at or near ONR, Arlington VA and 60% at other contractor or government facilities. Interim meetings are likely, but these will be accomplished via video telephone conferences, telephone conferences, or via web-based collaboration tools.

4. The DoD High Performance Computing Program

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S & T and DT & E communities with use-access to very powerful high performance computing systems. Awardees of ONR contracts, grants, and assistance instruments may be eligible to use HPCMP assets in support of their funded activities if ONR Program Officer approval is obtained and if security/screening requirements are favorably completed. Additional information and an application may be found at http://www.hpcmo.hpc.mil/.

5. Use of Animals and Human Subjects in Research

If animals are to be utilized in the research effort proposed, the Offeror must complete a DoD Animal Use Protocol with supporting documentation (copies of AAALAC accreditation and /or

NIH assurance, IACUC approval, research literature database searches, and the two most recent USDA inspection reports) prior to award. Similarly, for any proposal that involves the experimental use of human subjects, the Offeror must obtain approval from the Offeror's committee for protection of human subjects (normally referred to as an Institutional Evaluation Board, (IRB)). The Offeror must also provide NIH (OHRP/DHHS) documentation of a Federal Wide Assurance that covers the proposed human subjects study. If the Offeror does not have a Federal Wide Assurance, a DoD Single Project Assurance for that work must be completed prior to award. Please see **http://www.onr.navy.mil/02/howto.htm** for further information.

6. Command and Control and Combat Systems (C2 and CS) Program Website

The C2 and CS Program website www.onr.navy.mil/02/baa/04_20 and the ONR website (http://onr.navy.mil) provide the BAA, amendments to the BAA, and additional information related to this BAA and will be the primary means of publicizing all relevant information to this BAA. All interested parties are encouraged to visit both websites regularly.